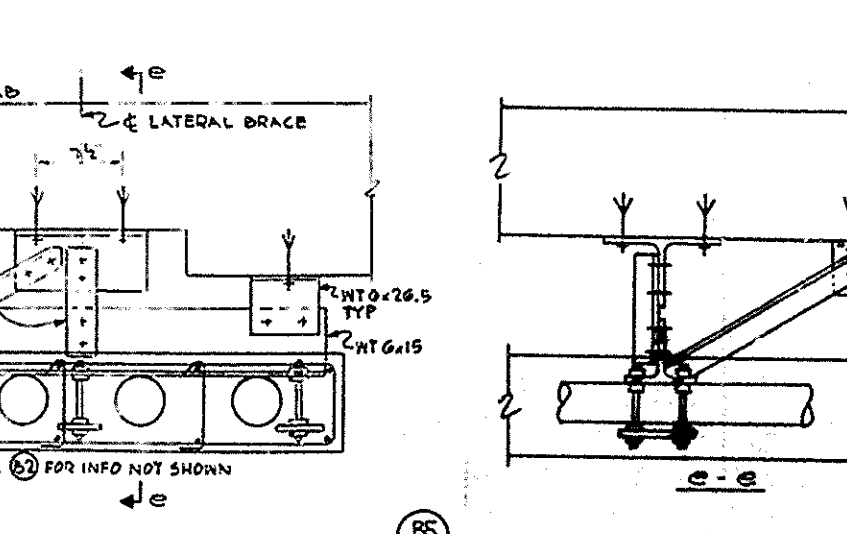
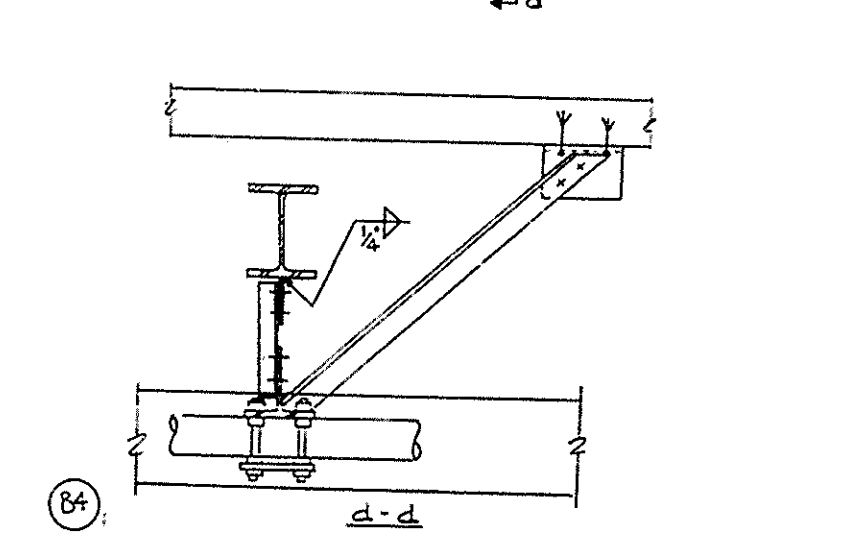
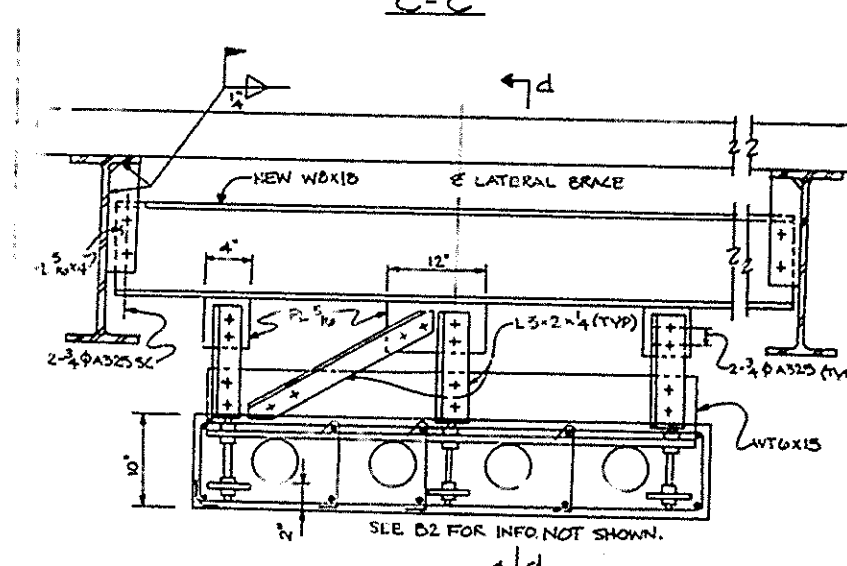
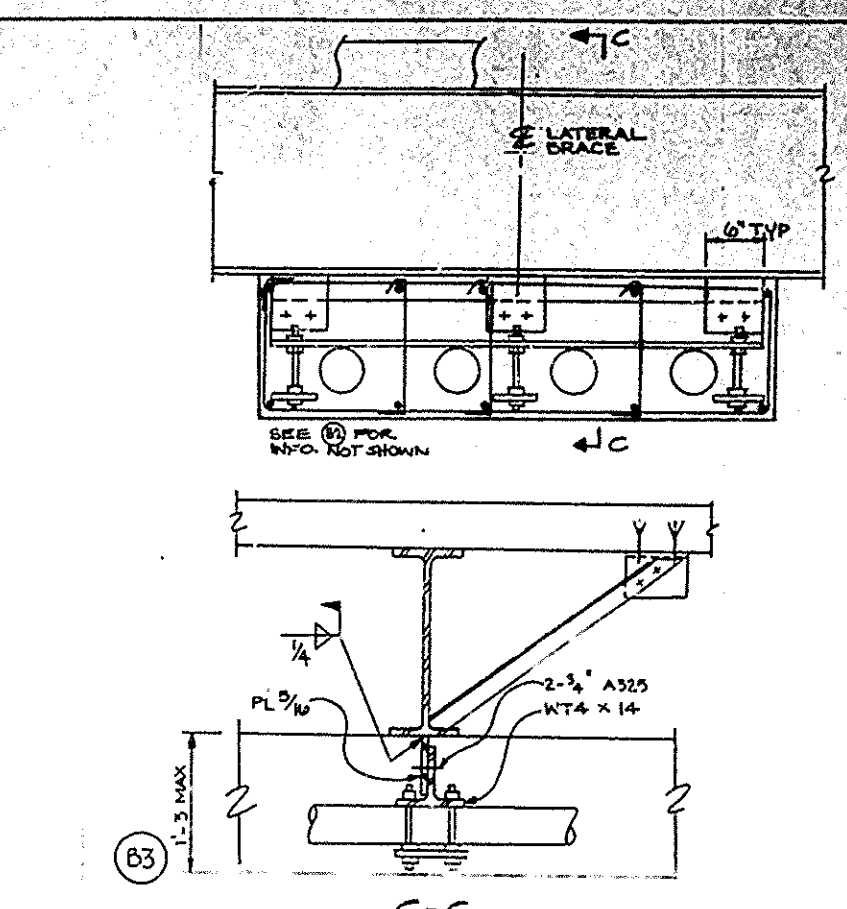
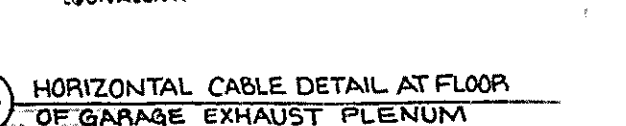
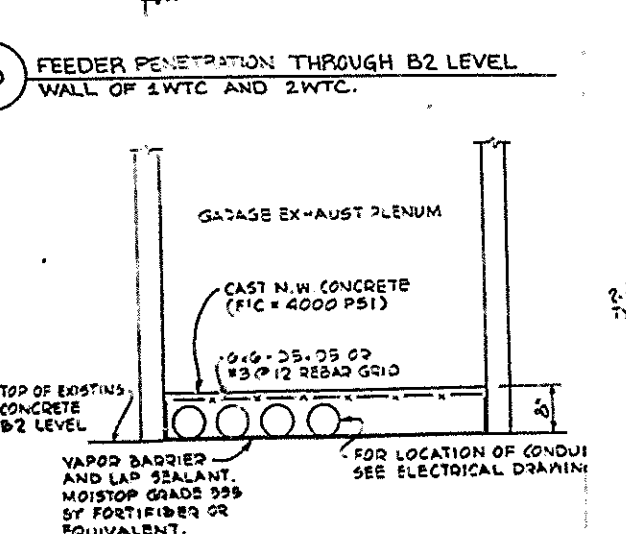
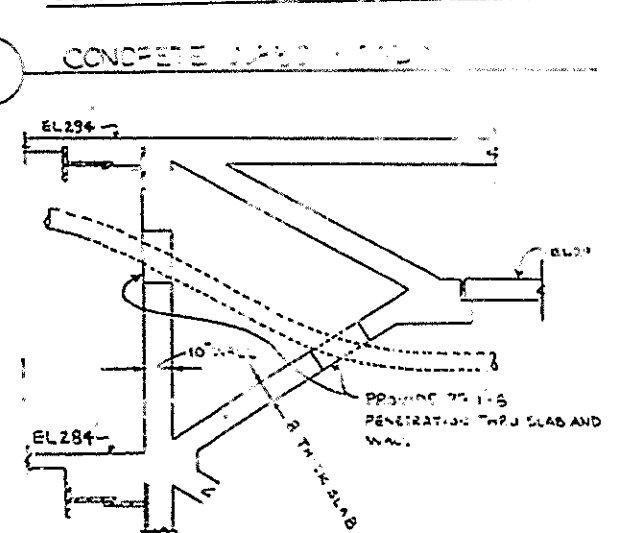
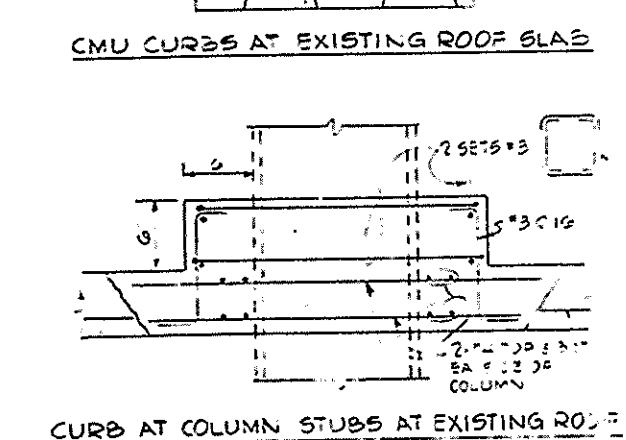
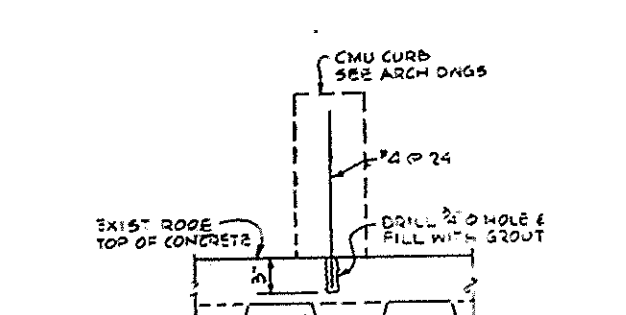
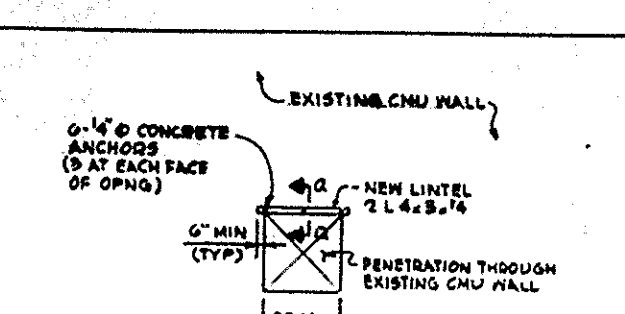
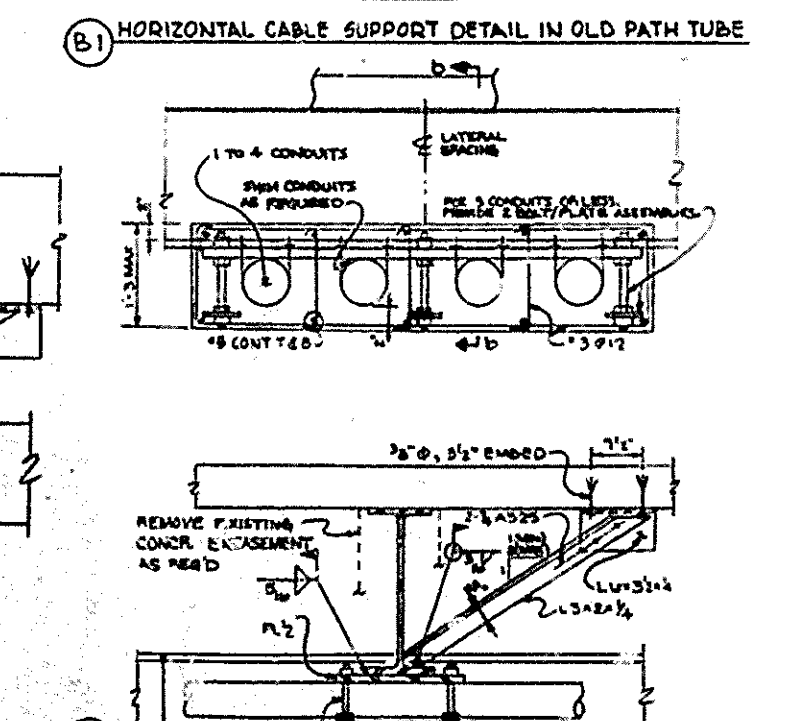
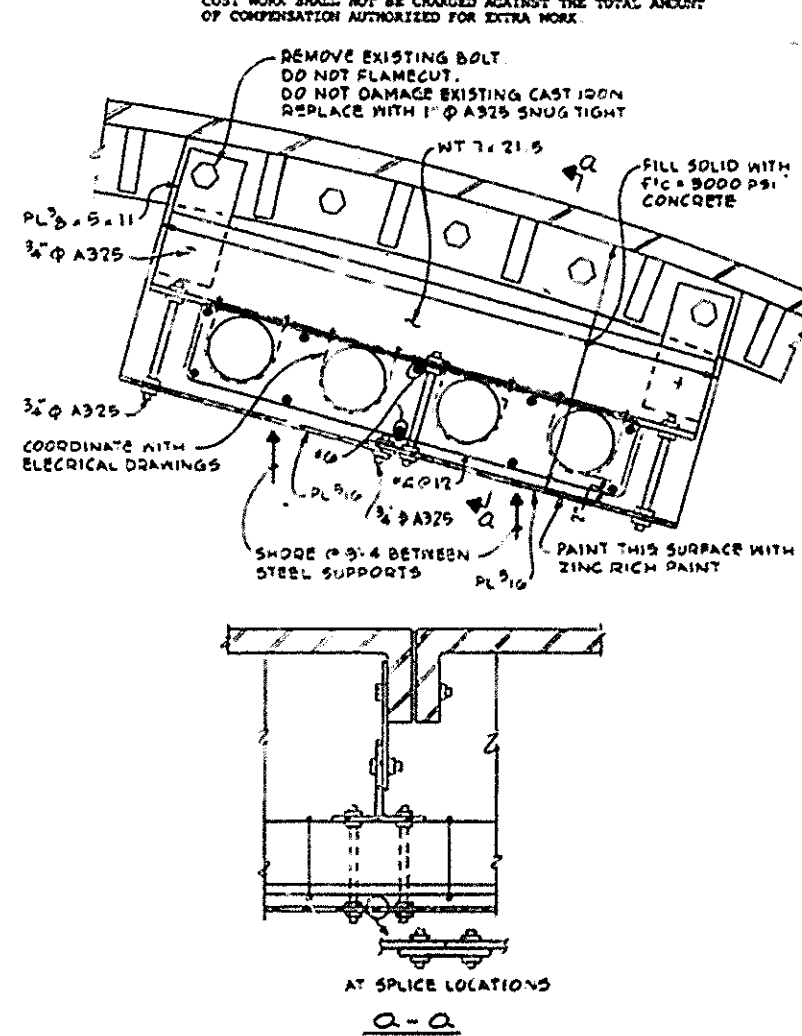


- FOR SIZE AND LOCATION SEE ARCHITECTURAL, MECHANICAL AND STRUCTURAL DRAWINGS.
- ROUGHEN SURFACE OF SLAB, CLEAN THOROUGHLY AND APPLY EPOXY BONDING COMPOUND IMMEDIATELY BEFORE CASTING CURB OR PAD.

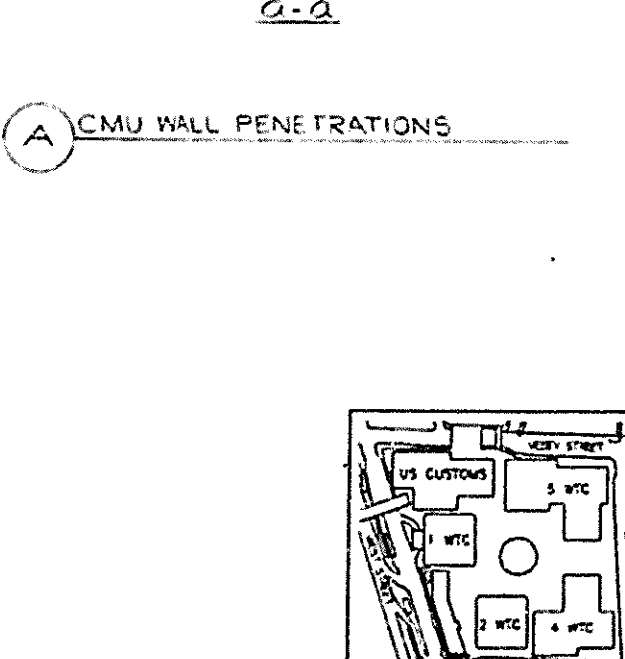
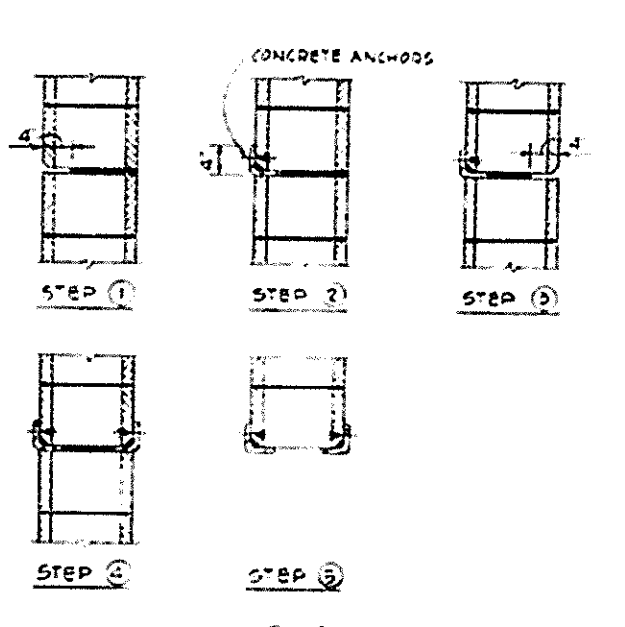


- NOTES FOR CONCRETE ENCASED HORIZONTAL FEEDERS:
- CONTRACTOR SHALL SURVEY THE WORK SITE AND SELECT LOCATIONS FOR FEEDER SUPPORT BRACKETS. TYPICAL DETAILS FROM VARIOUS BRACKET CONFIGURATIONS THAT ACCOMMODATE CONTINGENT FIELD CONDITIONS. NOT ALL CONDITIONS HAVE BEEN CONTEMPLATED. CONTRACTOR SHALL PROVIDE LATERAL BRACING AND BRACKETS AS REQUIRED TO ACCOMMODATE ACTUAL CONDITIONS.
 - CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS OF FEEDER BRACKETS. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING:
 - BRACKET LOCATION DRAWINGS INCLUDING PLAN LOCATION AND ELEVATION AND THE DESIGNATION OF EACH BRACKET TYPE. DRAW TO 1/8" INCH = 1'-0".
 - DETAIL DRAWINGS OF THE BRACKETS.
 - FORMWORK DRAWINGS FOR THE CONCRETE ENCASEMENT INCLUDING SHORING REQUIREMENTS.
 - UNLESS OTHERWISE NOTED, PROVIDE SUPPORT BRACKETS AT 5'-0" SPACING.
 - IN ADDITION TO THE REQUIRED BRACKET SPACING IN NOTE 3, PROVIDE BRACKETS AT ALL LOCATIONS WHERE:
 - FEEDERS CHANGE DIRECTION, EITHER VERTICALLY OR HORIZONTALLY.
 - IMMEDIATELY ADJACENT TO PENETRATIONS THROUGH WALLS.
 - WHERE A SINGLE CABLE DIVERGES FROM A GROUP OF CABLES.
 - LATERAL BRACING SHALL BE PROVIDED AT ALTERNATE BRACKET LOCATIONS AS SHOWN IN THE TYPICAL DETAILS. BRACING AT CHANGES IN DIRECTION AND AT WALLS PER NOTE 4.
 - STRUCTURAL STEEL FOR BRACKETS SHALL BE F158. SHOP PRIME PER GENERAL NOTES.
 - CONCRETE ENCASEMENT SHALL BE F158 + 3000 PSI.
 - AFTER SET CONCRETE ANCHORS SHALL BE MAXI BOLT BY DRILLICO DEVICE LTD.
 - COMPENSATION FOR INSTALLATION OF FEEDER SUPPORT BRACKETS AND CONCRETE ENCASEMENT INCLUDING REMOVAL AND REPLACEMENT OF EXISTING CONSTRUCTION IN THE WAY WILL BE PAID FOR AT THE NET COST THEREOF. "NET COST" SHALL BE COMPUTED IN THE SAME MANNER AS IS COMPENSATION FOR EXTRA WORK, INCLUDING ANY PERCENTAGE ADDITION TO COST. AS SET FORTH IN THE CLAUSE OF THE CONTRACT PROVIDING COMPENSATION FOR EXTRA WORK. COMPENSATION FOR SAID NET COST WORK SHALL NOT BE CHARGED AGAINST THE TOTAL AMOUNT OF COMPENSATION AUTHORIZED FOR EXTRA WORK.



- GENERAL NOTES:
- STRUCTURAL STEEL SHALL BE ASTM A158. SHOP PRIME PER GENERAL NOTES.
 - CLEAN STEEL WITH A POWER WIRE BRUSH TO REMOVE LOOSE MILL SCALE, RUST, DIRT AND OTHER FOREIGN MATERIALS. PRIME WITH THUNDERBOLT 10-99 OR OTHER AS ACCEPTED. FIELD TOUCH UP WITH SAME.
 - CEMENT GROUT SHALL BE 1:1 RATIO OF CEMENT TO SAND. GROUT SHALL BE PLACED IN JOINTS AND RACKED BY MANUFACTURER.
 - CONCRETE ANCHORS SHALL BE 1/2" DIA. IN JOINTS OR EQUIVALENT INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
 - COMPENSATION FOR CMU WALL PENETRATIONS INCLUDING CUTTING, REINFORCING, PATCHING AND REMOVAL AND REPLACEMENT OF EXISTING CONSTRUCTION IN THE WAY WILL BE PAID FOR AT THE NET COST THEREOF. "NET COST" SHALL BE COMPUTED IN THE SAME MANNER AS IS COMPENSATION FOR EXTRA WORK, INCLUDING ANY PERCENTAGE ADDITION TO COST. AS SET FORTH IN THE CLAUSE OF THE CONTRACT PROVIDING COMPENSATION FOR EXTRA WORK. COMPENSATION FOR SAID NET COST WORK SHALL NOT BE CHARGED AGAINST THE TOTAL AMOUNT OF COMPENSATION AUTHORIZED FOR EXTRA WORK.

- BASIC PROCEDURE:
- STEP 1: LOCATE THE MORTAR JOINT THAT DEFINES THE TOP OF THE NEW BRUSH OPENING. ROUTE THE MORTAR JOINT OF THE WALL TO REVEAL THE ANGLE. REVEAL THE EDGE OF THE BRUSH TO CLEAR THE FILLET OF THE ANGLE. CAN CUT THE VERTICAL EDGE OF THE BRUSH OPENING.
 - STEP 2: SET THE ANGLE. AFTER FIRST FILLING THE BRUSH SPACE WITH A STIFF CEMENT GROUT SO AS TO OBTAIN FULL SPACING. TOP AND BOTTOM. DRILL THE ANGLE INTO THE SPACE WITH A HAMMER. INSTALL COMPLETE ANCHORS.
 - STEP 3: BUT LESS THAN 24 HOURS AFTER INSTALLING THE ANGLE ON THE INSIDE OF THE WALL. REVEAL THE ANGLE ON THE OTHER SIDE OF THE WALL.
 - STEP 4: SET THE ANGLE FOLLOWING THE PROCEDURE IN STEP 2.
 - STEP 5: COMPLETION OF THE WALL BRUSH AND ANCHORS SHOULD BE IMMEDIATELY FOLLOWING THE COMPLETION OF STEP 4.



Sheet 30 of 112

THE PORT AUTHORITY
OF NEW YORK AND NEW JERSEY

CONFORMED DRAWING
02/03/98
SIGNED AND SEALED
COPY IS KEPT ON FILE

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No.	Date	Revision	Approved
1	02/03/98	1	

Engineering Department
Design Division

The World Trade Center

STANDBY POWER
5 WORLD TRADE CENTER

STRUCTURAL

TYPICAL DETAILS

This drawing subject to conditions in contract. All revisions, notes, drawings and methods herein are subject to the Port Authority and may not be used without its written consent.

W/S	JML	RZ
Designed by	Drawn by	Checked by

Date: 11/18/97

Contract Number: WTC-945071

Drawing Number: S1-02